

CLAIMS

What is claimed is

1. A door lock structure, comprising:

5 a chassis;

a tongue mechanism comprising a lock tongue penetrating the chassis, a slide mount connected to the lock tongue, and a driving member having one end connected to the slide mount;

10 a latch mechanism comprising a lock latch penetrating the chassis, a latch mount connected to the lock latch, a shaft rod connected to the latch mount, and a linking mount mounted on one end of the shaft rod;

15 a security latch mechanism comprising a security latch penetrating the chassis, and a swing piece having a free end that swings to contact the latch mount of the latch mechanism for stopping the lock latch from retracting into the chassis when the security latch retracts into the chassis;

a doorknob linking mechanism comprising at least one rotating member pivoted to the chassis and connected to at least one external doorknob, and at least one linking member pivoted to the rotating member, wherein the linking member has an arm contacting the linking mount of the latch mechanism; and

20 a doorknob control mechanism comprising at least one restriction member that restricts relative motion between the linking member and the rotating member of the doorknob linking mechanism, a button, and a pair of transmission pieces contacting the button, wherein the button is pushed to allow one of the transmission pieces to release restriction from the restriction member on the linking member;

25 wherein the restriction member is pivoted to the linking member and has a first end forming a passive portion that contacts the rotating member, and the pair of transmission pieces each has a first end contacting the button, with a second end of the one of transmission pieces being adjacent to a second end of the restriction member, making this transmission piece slide between two corresponding walls of the chassis and linked with a
30 lever piece pivoted to the chassis.

2. The door lock structure as recited in claim 1, wherein the at least one rotating member, linking member and restriction member are respectively provided as two in number symmetrically arranged in the chassis, and the at least one doorknob is also provided as two in number respectively disposed on two sides of the chassis and pivoted to the two rotating members.

3. The door lock structure as recited in claim 1, wherein the button comprises two wings each having an inner surface contacting the first end of each of the transmission pieces.

4. The door lock structure as recited in claim 3, wherein the one of transmission pieces is shifted by the corresponding wing of the button to push the second end of the restriction member, so as to rotate the restriction member and release the passive portion of the restriction member from the rotating member.

5. The door lock structure as recited in claim 1, wherein the lock latch is flexibly pulled out from the latch mount, and rotated by 180 degrees to be restored back into the latch mount in a reverse direction.

6. The door lock structure as recited in claim 1, wherein the chassis comprises a frame and a lid for covering the frame, the frame having a substrate and separating plates peripherally formed on the substrate, and two ear-shaped members are installed in gaps between the separating plates to affix the chassis on a door board.

7. The door lock structure as recited in claim 1, further comprising a lock core having the driving member, allowing the lock tongue to exert a force on the other end of the driving member to urge the slide mount to project out from or retract into the chassis.

8. The door lock structure as recited in claim 1, wherein the latch mechanism further comprises a fireproof piece formed on the latch mount, with a guiding trench formed along

one side of the fireproof piece, to allow a protruding portion on a side wall of the latch mount to project into the guiding trench, such that the fireproof piece moves up and down to cover a security pin in the latch mount to prevent the fireproof piece from falling.

- 5 9. The door lock structure as recited in claim 8, wherein the security pin is melted at a high temperature during a fire to allow falling of the fireproof piece under gravity, and the fireproof piece is obstructed between the latch mount and a shaft pillar fixed on the chassis to prevent the fireproof piece from entering a latch hole when the lock latch is urged to retract into the chassis, such that the door lock structure remains locked during the fire.

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10. The door lock structure as recited in claim 1, further comprising an adjustment piece formed on the second end of the one of transmission pieces for use to release the restriction from the restriction member on the linking member.

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